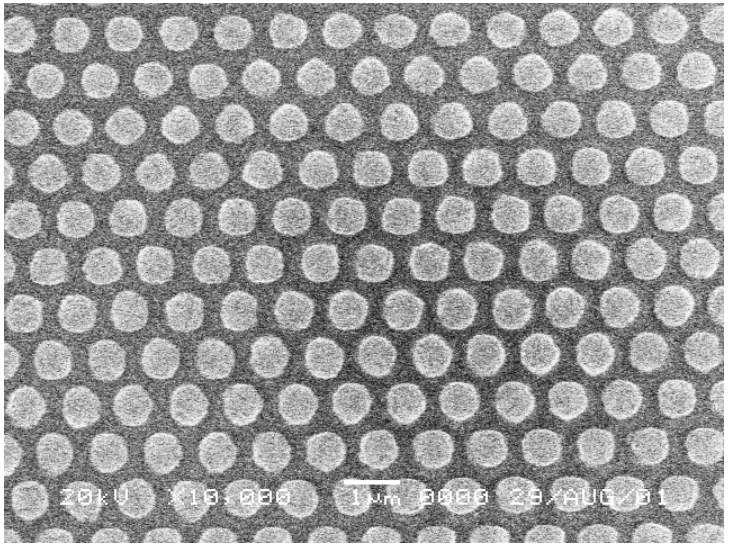
Acquisition of a Workhorse Electron Beam Lithography System for Microstructured Materials and Devices Research

X. S. Ling, Brown University, NSF-MRI-0079628



Electron-beam lithography (EBL) is a powerful tool for fabricating microstructures at submicron scales. This project involves the acquisition of a workhorse Electron Beam Lithography (EBL) system using the latest Burleigh Inchworm nanopositioning technology for micro and nano structured materials and devices research and education at Brown University. The EBL is the state-of-the-art nanotechnology which has revolutionized many areas of science and technology. A large group of experimentalists at Brown University conduct experimental research at the frontiers of microstructured materials and devices. Graduate and undergraduate students at Brown will use the EBL system to fabricate artificially designed patterns for fundamental studies of colloidal crystallization, for applied research in ultrafast transistors and novel magnetoelectronic devices, and for exploring novel liquid crystal materials and for developing sensors for cosmology experiment.